To: K. Lehtonen

From: Darlene West

Subject: Delivery of MUGSy Release 1

Date: 30 September 1996

The purpose of this memo is to document the delivery of the MUGSy Release 1 capability.

The MUGSy release 1 capability provides the CCS Design Environment using the Popkin System Architect (SA) product; CCS Configuration Management Environment using the True Software Aide-de-Camp (ADC) /Pro product; and a single user interface, called MUGSy Central, based on SCOPUS products. Using MUGSy Central, all registered users can submit, find, or update Change Requests (CRs), CCS Products, and Contacts. On-line help is available for MUGSy Central. MUGSy Central is available from the CCS Home Page and can be accessed from any platform containing an internet browser and connected to the internet.

For each product the following is provided in Appendix A (SA), Appendix B (ADC), and Appendix C (MUGSy Central):
    1. SUMMARY STATUS
    2. SUMMARY OF CAPABILITIES
    3. USERS GUIDE
        a. Environment
        b. Logging on
        c. Getting Started
        d. Usage
    4. KNOWN LIMITATIONS AND WORKAROUNDS
    5. POINTS OF CONTACT.

To facilitate the usage of MUGSy Central, an initial Products List and Contacts List have been established. Any user can view the Products List and Contacts List via MUGSy Central. The Contacts List was populated based on the CCS roster (by A. Comer) and the Vision 2000 Key Contacts. MUGSy Central was tested. All unresolved anomalies or recommended changes have been documented and will be entered as Change Requests (CRs) into MUGSy Central. We also hope to have a MUGSy process defined 4 October 1996 that will provide a very efficient method to identify and implement changes to the CCS Web Page.

Effective October 1, 1996, SA will be used to capture all CCS design and development information. ADC will be used to manage CCS configurations, and MUGSy Central will be used to report all problems against the Office Environment or any MUGSy products, baseline CCS products, or to update the CCS roster. Each CCS member should verify that their entry in the Contact List is correct. Additionally, the InfraStructure Team (IST) needs to populate the Office Environment "product" table to establish a "pick list", that people can select from, to specify their Office Environment problems .

Work is currently in progress developing a "CCS Products and Standards Document" that will define all CCS products, standards to be used to develop the products, and review process(es) to baseline products. Additionally, for each product identified in the CCS Products and Standards Document, owners and approvers will be identified. When the CCS Products and Standards Document is baselined, the MUGSy products table will be updated and business rules will be established to implement automatic notification, promotion, and escalation.

The MUGSy Release 1 has been placed under CM control.

cc: J. Gainsborough

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Appendix A: MUGSy Release 1 SYSTEM ARCHITECT

1. SUMMARY STATUS

System Architect has been procured and installed with a 20 concurrent user license. System Architect has been extended to support requirements collection and attachment to high level diagram symbols. Requirements are being added, refined, and attached at the present time. System Architect has been extended to support integration and test activities. This extension required the creation of the thread/segment entity type, the Release entity type, and the integration of both into the standard encyclopedia. Special reports have been prepared to support both the requirements and test activities.

An initial unified encyclopedia has been established for CCS analysis and design activities. Specifically the encyclopedia defines the context diagram, Level 1, and Level 2 diagrams and an initial encyclopedia has been prepared for Release 1 and 2 activities. Each user is free to make updates to the content of a single unified Encyclopedia. SA users MUST create copies of the unified encyclopedia for reporting purposes. (See KNOWN PROBLEMS.)

A draft standard for SA defined Data Flow Diagrams and Object Oriented diagrams has been produced as part of this release.

Two CCS InfraStructure Team (IST) members have been trained to back up and restore the server, restart the server in the event of a lockup, and install and maintain SA clients on Windows 95 and Windows for Workgroup clients. At the beginning of each day, the unified encyclopedia is backed up and any inactive users are purged from the SA queue.

2. SUMMARY OF CAPABILITIES

SA will provide the environment for creating and maintaining the CCS engineering repository. Through the use of a unified encyclopedia and standards encyclopedia, SA enforces a common data dictionary across the CCS PDT. Reports can be requested to support rules and consistency checks.

SA will capture the CCS requirements, thread definitions, System Design and CI design. SA will produce reports that will represent a "specific CCS Product baseline" (or updated baseline) which can be archived in ADC.

SA will allow multiple users to work concurrently, from a unified encyclopedia.

3. USERS GUIDE
   a.   Environment:
        System Architect runs on a PC platform ONLY and requires a PC 486 and above processors under Windows 3.1 and Windows 95.
   b.   Logging on:
        To activate SA, the user first clicks the System Architect Icon. (If the icon is not present on your system, contact John Guy or Dan Ambrose). The user is asked to enter an audit id. This ID is a 7 character string of which the first character should be the first letter of the user first name followed by the first six characters of the user last name.
   c.   Getting Started:
        An encyclopedia must always be opened to use SA. After the user is successfully logged on, SA will load the default encyclopedia. The loaded encyclopedia is shown on the title bar (at the very top of the Sysarch window). The name shown on the title bar should be S:\ccs_arch\Working. On the dialog box on which you enter this name, check the SAVE box if you want the default encyclopedia to be the unified CCS encyclopedia. The next time you run SA, this encyclopedia will load automatically.

d. Usage: Detailed documentation for using the SA can be found in the System Architect guide available in Room 29. A brief overview for MANIPULATING EXISTING DIAGRAMS is provided below:.
- Opening:
  Diagram|Open then press Search button (Note: All defined diagrams will appear as a "pick-list")
  Select Diagram
  Press OPEN
- Changing the diagram
  Use tool bar or menu to alter the Diagram
- Making Child Diagrams off a parent
  Diagram|Child|Create
- Saving
  Diagram|Save
- Closing
  Diagram|Close (Note: When finished with a diagram, it must be closed)
- Printing a diagram
  File|Print
- Exiting from SA
  File|Exit

4. KNOWN LIMITATIONS AND WORKAROUNDS

SA "Lockout: During the course of the past two weeks, SA has locked users out of their encyclopedia's. The locking occurs whenever one user launches a lengthy report while other users are performing update operations. Workaround procedures have been developed and distributed for dealing with this problem. The procedures require that a user create a private copy of the encyclopedia, and produce a report from that private copy. All users must comply with this workaround to avoid any reoccurrence of the lockout problem. We have also contacted Popkin for technical support on this.

5. POINTS OF CONTACT.

a. To back up and restore the server, restart the server in the event of a lockup, and install and maintain SA clients on Windows 95 and Windows for Workgroup clients.

John Guy:	Room 60, ext. 7443
Dan Ambrose:	Room 60, ext. 7451

b. For specific SA usage questions, reports, and extended functionality requests.

Steve Robinson:	Room 29, ext.7427
Steve Kuehm:	Room 29, ext. 7521 (Thursday only)

c. General usage: There are several other experienced users who can help:

Sharon Komenda:	Room 29, ext. 7426
Larry Barrett:	Room 62, ext. 7438

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Appendix B: MUGSy Release 1 Aide-de-Camp

1.   SUMMARY STATUS

The True Software Aide-de-Camp (ADC)/Pro procurement has been completed and a 60 seat license has been issued to the CCS. ADC client/server software has been successfully installed, configured, customized, and tested on the CCS development configuration server and SGI and Windows 95 clients. Initial user and administrator training has been provided.

Directory and repository structures have been created to support the CCS configuration management approach/requirements and to facilitate CCS product development and deployment. As such, the structures correspond to the CCS Functional Teams (CFTs). For the CCS software products, the structures have been derived from the level 2 or 3 Data Flow Diagram process definitions with additions to support class libraries and COTS and GOTS. Also, structures to support CCS hardware, engineering and project documentation products have been created. The structures are expandable and extensible. The structures established have been customized to support CCS GUI and Java development, by recognizing and validating Java, HTML, and GIF file types. The tool, as supplied from the vendor supports C, C++, and FORTRAN file types. CCS specific server shut down, reset, and restart procedures have been established and implemented as automatic start-up and shut-down scripts.

The GUI, System Architect, SCOPUS, ADC/PRO, Stored Procedures, and System Administrator repositories have been populated. CCS repository creation procedures have been established and were used to populate the repositories with available CCS development baselines. The repositories are current with CCS development status.

The CCS CM Reference area, /r/NOBACKUP/workref has been created on the development Challenge machine.

ADC, as delivered in MUGSy Release 1, has demonstrated the ability to successfully manage and control the available CCS development baselines. It is a stable platform that provides a robust and powerful feature set. Work is underway to extend to add new repositories as required, add new users, and add different client platforms. Additionally, procedures and standards will be baselined.

2.   SUMMARY OF CAPABILITIES

As installed and configured, ADC provides a fully functional CCS Product Development Environment (PDE). Through an easy to use and intuitive GUI, the PDE provides archiving, tracking, promoting, referencing, viewing, merging, migrating, reporting, and other functions for CCS Product development. Archive, version control, and report capabilities for all CCS product development and tools, including software, hardware, and engineering drawings and reports, and project documentation are implemented with this release.

This release implements CCS reference areas which provide users, i.e., product developers, managers, testers, etc., with the capability to view and work with the current or previous baselines. References areas can be created, modified, managed and controlled.

The release provides the capability for users to designate their PDE work environment which establishes links between the user's private work space, the repository and its functionality, and the reference areas. The CFT Leads can establish baselines of the teams' source files to be captured in the archive and designated as reference areas that are available to all team members through the PDE. Each PDE user (CFT member) can conduct their development activities in a private workspace (one or more). Not only is the workspace linked to the repository and reference area functionality, but it also provides the capability for users to maintain local and private files that can take precedence over the reference area files. In addition, User's can name each workspace and they are not restricted to what applications or tools they can use in their workspace (Macs are not supported).

As development work progresses, each user can update the local "write copy" of the files and place the changed files into the archive repository. Periodically, the CFT Leads can update the baseline with changes, performing

merge and conflict resolutions. The leads can then designate the new version of the baseline as current and make it available to all individual team members.

3. USER'S GUIDE:

Detailed instructions on managing the PDE are provided in the ADC/Pro Reference Manual Command Line Interface, the ADC/Pro Tutorial, and the ADC/PRO for Windows User's Guide. These documents are available for reference in the VISION 2000 Co-Location Facility Rm.# 80. Detailed procedures for CCS CM activities are under development.

    a. Environment:
        The ADC server is installed on V2MA02, running SGI IRIX 6.1, with 4 Gbytes of allocated disk space which can easily be expanded to 14 Gbytes. Clients are available on all development string SGIs and are installable on PCs running Windows 95.
    b. Logging on:
        User accounts are created when a new user first logs on. See initialization and Graphical Interface under Getting Started below.
    c. Getting Started:
        Initialization: To initialize the PDE on an SGI, add the following two lines to your **.cshrc** :
                #adc environment
                source /adc/cm/bin/adcpvar.csh
        Graphical Interface: To start a Graphical Interface execute the following command:
                xadc &: ADC will bring the **Main Window**
        Main Window : The Main Window provides a menu that provides pull down access to ADC features and information about the repositories and work environment
        Using the Mouse: ADC recognizes **MB1 button** or the left button and the **MB3 button** or the right button. The **MB1 button** is used for access and information selection. The **MB3 button** is used to select operations
    d. Usage: A summary of terminology and key activities is described below:
        1. Terminology: The key to the robustness of the ADC product is its ability to define and manage physical and logical objects based on Work Spaces, Reference Areas, Configurations, Project, and Repositories, as described below.
            ADC Work Space: The Work space is a personal development area (directory path in user's personal account) created by each user to work on a work assignment. It is the first physical location of any product managed. Users can create a work space per assignment. Each work space has a name and contains environment definitions to link the work space to a dedicated repository and project. Through softlinks, each work space replicates the directory structure of the reference area. As soon as a product is baselined, it is placed in the ADC Reference area where the baseline is controlled. Updates to products controlled in the Reference are accomplished using a Check-out and Check-in procedure, which restricts updates to a single user, thereby eliminating multiple changes.
            ADC Reference Area: The reference area is a view of the configuration or of individually selected projects. References areas read and execute privileges established for the users. For the CCS, all reference areas for SGI clients are located on the raid disk in the path /r/NOBACKUP/workref. Configurations and reference areas will be set up and maintained by the CM Specialist.
            ADC Configuration: The configuration is a list of a projects from one or more repositories. For the CCS a configuration is a version of each available project for each CFT.
            ADC Project: A project in ADC terminology is a group of related files. For the most part, a project and all of the development files for a CFT are synonymous. Each repository can contain one or more projects. Projects contain not only files but entire directory structures. For software projects, a project typically contains all files needed to build executables, exclusive of any dependencies outside of the project. ADC tracks multiple projects and changes to files inside of the projects as a project version.
            ADC Repositories: The ADC archive repository structures were designed to facilitate CCS product development and deployment. As such, the structures correspond to the CFT products and are derived from the level 2 or 3 Data Flow Diagram process definitions with additions to support class libraries and COTS and GOTS. Also, structures to support CCS

hardware, engineering and project documentation products were created. All source files are located in the ADC repositories. The structures are expandable and extensible.

ADC Change Sets: Each line of every file in the repository is uniquely identified as part of a change set. Change sets capture changes base on their logical characteristics: purpose, relationships, attributes, and other characteristics.

2. Key activities: The following activities represent the ones most frequently used by users..

Browse the Files: Provides the capability to view the current states of the directories and files in the repository. To browse a project directory or a file , do the following:

1). In the Main Window click the Browse icon (or from Command menu, select Browse File)

2). Select a file to browse. Highlight the file name by placing cursor and using MB1 button Click the OK or Browse Button

The Browse window will display the view of the file in the read only mode.

The Work Environment: ADC provides the developer a capability to work on many tasks at the same time and for each task to have a separate work environment. The work environment definitions are stored in the resource file **.adcprorc**. To select, save or delete a work environment select one of the following from the File menu:

1). Select Work Env

2). Save Work Env

3) Save Work Env as

4) Delete Work Env

Set a new directory or subdirectory: To set a new directory or subdirectory:

1). In the Main Window go to Work Dir. and Click MB1

2). Type in full path to new directory and Press Return.

Check Out: Check Out copies files to the current work space from the repository and tracks the files for the check in. To check files out of the repository:

1). In the Main Window, click the Check Out icon

2). Highlight selected files (If the file folder is closed then open the folder)

3). Select New Cset or Existing Cset by toggle the New Cset square box

4). For new Cset enter Cset Reference Number CR or Class name

5) Leave Cset box empty (ADC will create new Cset)

6). Enter short description for the Cset

7). Check that the Work Dir. is correct otherwise set correct Work Dir.

8). No overwrite is an option to protect your previous file to be overwritten by copy

9). Click the Check Out button and the file(s) will be checked out of the repository into the Work Dir.

10). A Check Out status message box will appear with a dismiss button available. Click the dismiss button to close this box.

The file(s) is in the work space and ready to be worked on.

Check IN: Check in copies a check out file(s) back into the repository. To check in the files:

1). In the Main Window click Check In icon (or Select Check In from the Command menu)

2). The files that need to be check in are already highlighted.

3). Enter descriptions of the changes in the change documentation box,. Detailed description of changes can be written to a file and the file name can be put into Doc file. Otherwise the field must be blank.

4). Verify Work Dir.

5). Promote Cset provides options to promote the check in files the latest project version or to keep as a private to the user.

6). Keep files provide an option to delete files from the user's work space or to keep them.

7). Click the Check in button and the file(s) will be checked into the repository from the Work Dir.

8). A Check In status message box will appear with a dismiss button available. Click the dismiss button to close this box.

Load File: Provides the capability to add a new file(s) to the repository. To load new files:

1). In the Window click the Load files icon (or select Load files from the Command menu)

2). Specify the Work Dir. that contains the files to be loaded into the repository.

3). Use the Visual Directory Tree to select file to be loaded. If the subdirectory folder containing the file is closed then open folder by using MB1 button

4). Highlight the file(s)

5). Enter information about the files

6). Use Initial Add to add a new file(s)

7). Enter reference Id or leave the field blank

8). Click the Load button and the files will be added to the repository

9). A load status message box will appear with a dismiss button available. Click the dismiss button to close this box.

Other Useful ADC commands from the UNIX command line that can be very useful:

1). $ adc-env   provides information about work environment

2). $ adc-setfshead   sets the selected subdirectory as a default work directory

3). $ adc-displaycfg -l   provides information about all configurations

4. KNOWN LIMITATIONS AND WORKAROUNDS

a. Extent of CM control: Only a small portion of the CCS has been placed under CM control and there is a lot of CM work remaining to get the rest of the project under control. This is because at this stage in the project, all products have not been identified and very few products have been baselined. Note: with the delivery of MUGSy R1, several products will be baselined shortly.

b. Directory and repository structure: Some of the existing repositories contain strawman structures that will need to be modified as users become familiar with the tool and as their need to control their baselines become better defined.

c. Procedures and standards for establishing user accounts are under development. Establishment of user accounts are lagging, primarily due to the keys that expired waiting on the completion of the ADC procurement. Keys were received on 9/28/96. User accounts will be established as users identify their need.

d. Platforms: SUN clients are available but have not been implemented. HP and DEC clients are being delivered from True Software. Mac clients won't be implemented.

e. Near Term Challenges:
- CM reporting formats, frequencies, and automatic report generation scripts need to be determined.
- Controlling FEP baselines across the T1 and various firewalls may require installing another ADC server.
- Product promotion to the COLO Integration and Test string and to Building 23 Shadow string through the various Ethernet, firewalls, etc. is going to be challenging.

5. POINTS OF CONTACT for all ADC user account and usage:

Paul Capotosto   room 80, ext. 7448

Yuri Frankel   room 80, ext. 7475

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Appendix C: MUGSy Release 1 MUGSy CENTRAL

1. SUMMARY STATUS

The SCOPUS products have been installed on a SUN server. The Oracle Database schema has been customized to accommodate the CCS needs. The resultant forms have been converted to HTML to allow all users to interface with MUGSy Central via an internet browser.

The MUGSy Central capability is currently configured using an evaluation copy of the SCOPUS products, a "borrowed copy of the Oracle Database", and a shared SUN Platform. As soon as the procurement process has been completed and legal versions of the SCOPUS products, Oracle Database, and SUN Operating System have been received, MUGSy Central will be re-installed and re-established.

2. SUMMARY OF CAPABILITIES: The functionality available to the CCS PDT on 10/1/96 includes:
   a. Ability to submit, find, or update Change Requests. (This will be used to submit changes to or identify problems with CCS Products and the Office Environment.)
   b. Ability to submit, find, or update CCS Products and the Office Environment. (This will be used to manage the "baseline CCS Products".)
   c. Ability to submit, find, or update CCS Contacts. (This will be used to maintain the CCS roster and key Vision 2000 contacts.)

3. USERS GUIDE
   a. Environment:
        MUGSy Central is available to all users with an internet browser.
   b. Logging on: To access MUGSy Central, the USER will need to:
        1. ACCESS URL: "http://v2ms01:4041/" and
        2. SELECT the URL (Multiple times - SEE KNOWN LIMITATIONS AND WORKAROUNDS "Server Activation")
   c. Getting Started: The user will see the MUGSy Central screen and can maneuver around by "clicking on the appropriate buttons".
   d. Usage: Use the MUGSy Central ON-Line help facility

4. KNOWN LIMITATIONS AND WORKAROUNDS
   a. Server activation: The MUGSy Central Server does not always activate the FIRST TIME. To work around this, users will have to "STOP" and RESELECT the MUGSy Central URL multiple times. Once the Server contact has been complete the user can maneuver around any of the MUGSy Central pages by clicking on the appropriate buttons.
   b. Dynamic Update to CRs, Products, and Contacts currently do not work. If any new Products or Contacts are "submitted', G. Orr will have to manually update the specific list available on any pop down field lists. This problem will be corrected when we receive the official Webteam 2.0 release.
   c. Lack of Technical Support: Due to our usage of the SCOPUS evaluation copy and the borrowed "Oracle DB", our access to vendor technical support is severely limited. To resolve any Oracle problems, we have relied on our own resources. To resolve any SCOPUS problems, we have groveled for technical support. Their local representative has been very responsive in the last week.
   d. Unrestricted access: Once a user has successfully registered to use MUGSy Central, they have access to everything within the MUGSy Central bounds.

5. POINTS OF CONTACT.
   a. MUGSy implementation:
        Gary Orr: Room 79, ext. 7472
        Ed Burgess: Room 78, ext. 7480
   b. MUGSy Usage:
        Maria Jacob: Room 81, ext. 7461